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LC/NAIROBI

MANAGEMENT OF ENVIRONMENTAL DEGRADATION PARTICULARLY DROUGHT AND DESERTIFICATION ASPECTS, IN THE IMPLEMENTATION OF AFRICA'S PRIORITY PROGRAMME FOR ECONOMIC RECOVERY

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I. INTRODUCTION

1. The African region has been adversely affected by a series of bad and debilitating droughts which have spread over a period of nearly 20 years from 1968 to 1986. The droughts were particularly severe in arid, semi-arid, and sub-humid parts of the region, affecting at least 26 countries, and causing havoc in their economies by the disruptions and damage they inflicted on agriculture and food production. The worst-hit areas were located in the Sudano-Sahelian climatic zone of the continent which stretches from West African States of Senegal and Mauritania, and cover the whole of the Sahel countries as well as Ethiopia, Somalia and Kenya in the eastern parts of the continent. Also hit, though not as disastrously, have been the Southern African States including Mozambique, Zimbabwe, Botswana and Angola, among others. Even the more normally humid countries have not always been spared, and they too have had to adjust to dry periods longer than normally expected. Following in the wake of the Sahelian drought of 1968-1973, it was quickly established that most of the African droughts are accompanied by a more insidious environmental degradation and the loss of croplands and grazing lands, through a largely human-induced process known as desertification.

2. In response to drought and desertification in the Sahel in West Africa, a series of institutions such as the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS), the Institut du Sahel and the United Nations Sudano-Sahelian Office (UNSO) were established, partly to provide emergency aid to the affected countries, and secondly to start work on more long-term solutions to the problems which had been set up by United Nations agencies such as UNESCO, FAO, UNEP and WMO quickly revealed that what was being observed was the end result of years of environmental mismanagement and degradation which had led to the encroachment of the desert, and in the face of rapidly increasing population in the subregion was bound to deteriorate even further. In this context, the droughts only served to highlight and to exacerbate a process of permanent ecological damage. This ecological damage has been characterized by, inter alia, severe soil erosion and the spread of sand dunes in former agricultural lands. The rapid decline of agricultural lands, particularly those located in the ecologically fragile semi-arid zones, the alkalinization and salinization of irrigated lands, the degradation of rangelands caused by overstocking and overgrazing, and the decline of woodlands and forestlands caused by massive clearing and deforestation. All these combined were found to be indicators of the process of desertification, and with the spread of droughts to other parts of Africa it was soon realized that these processes were not only confined to the Sahel lands, or for that matter to Africa alone, and that one was in fact dealing with a global process. It was this realization which led to the United Nations Conference on Desertification which was held in Nairobi, Kenya in 1977.

3. The report reviews the management of environmental degradation in Africa with specific reference to activities to combat the impacts of drought and the process of desertification within the context of Africa's Priority Programme for Economic Recovery (APPER). Drawing examples from the Maghreb countries as well as countries of the Permanent Inter-State Committee to Combat Drought

in the Sahel (CILSS), the Intergovernmental Authority on Drought and Development (IGADD) and the Southern African Development Co-ordination Conference (SADCC), recommendations were made for further action by member States, with the assistance of ECA, in collaboration with the other agencies of the United Nations system and other international organizations, to sustain drought relief and desertification control.

II. THE PRESENT SITUATION ON THE IMPLEMENTATION OF THE DROUGHT AND DESERTIFICATION ASPECTS OF APPER

4. The United Nations Conference on Desertification (UNCOD) held in 1977 provided an excellent forum for discussing the desertification problems for the whole world and it produced 28 recommendations for action to combat desertification in what became known as the Plan of Action to Combat Desertification (PACD). The recommendations provided for action at the national, subregional, regional and international levels, and at the end of the Conference, the United Nations Environment Programme (UNEP) was charged with the responsibility of providing a secretariat to co-ordinate all aspects of the Conference follow-up including the establishment of a global anti-desertification body along the lines of the recommentations contained in the Plan of Action. Although UNEP was charged with this responsibility, it was understood that, in keeping with one of the recommendations of the Plan of Action, all the United Nations specialized agencies, including the regional economic commissions, would be expected to participate actively thereafter in seeing to the implementation of the Plan of Action to Combat Desertification. In fact, the United Nations General Assembly, by its resolutions 32/169, 32/170 and 32/172 of 19 December 1978, called upon the regional commissions to participate in the implementation of the Plan of Action.

5. For the African region, ECA is the primary organ of the United Nations system in the implementation of APPER and the United Nations Programme of Action for African Economic Recovery and Development (UN-PAAERD). More than 11 years since UNCOD was held and nearly four years since APPER and the UN-PAAERD were adopted, it should be possible to look back at the achievements of all the various organs of the United Nations system, the subregional and regional institutions which have been established to deal with this problem, and the activities which have been initiated in the member States of ECA. The period in question has been particularly difficult for the affected countries in the African region. The droughts have not only persisted but they have also intensified to such an extent that they have revealed the structural weakness of the economies of many of these countries. Many of them have been unable to cope as agriculture and food production have collapsed. They found themselves unable to feed their fast-growing populations and have had to resort to massive food imports, often paid for with aid money. Drought and desertification have thus succeeded in worsening the economic crisis such that it is not possible to address the issues and produce a reversal in development without addressing this twin problem.

6. At first, drought was looked upon as a mere climatic deviation which would soon correct itself. But when it is both spread and intensified, and is found to be closely associated with desertification, it becomes clear that effective

management control strategies have to be worked out to deal with drought and to attempt to halt desertification. The period between 1968 and 1973 helped to propel drought and desertification on to the economic agenda of many African countries and more particularly the Sudano-Sahelian region. Following the United Nations Conference on Desertification, CILSS was strengthened and given increased responsibilities for working out effective anti-desertification projects and programmes for the Sudano-Sahelian region. Similarly, the Institut du Sahel was strengthened and a technical institution, namely AGRHYMET, was added to it and made even more active. Previously, several donor countries and the affected West African countries, including Burkina Faso, Chad, Mali, Mauritania, Senegal and Cape Verde had formed the Sahel Club (Club du Sahel) to facilitate funding of various anti-desertification programmes. Now UNSO, which had been established to organize funding and co-ordinate projects for the first four Sahelian countries, was strengthened and given a mandate to cover a total of 19 African countries including Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Djibouti, Ethiopia, the Gambia, Guinea, Guinea-Bissau, Kenya, Mali, Mauritania, the Niger, Nigeria, Senegal, Somalia, the Sudan and Uganda. Later, two new subregional institutions, namely the Intergovernmental Authority on Drought and Development (IGADD) to service the Eastern African subregion and the Southern African Development Co-ordination Conference (SADCC) to service the countries in Southern Africa were established. The growth of these institutions indicated that every effort is now being made to manage the deleterious effects of drought and to control desertification. ECA took on an even more active role in the co-ordination of anti-desertification programmes from the national level up to the regional level.

7. In 1980, the first Economic Summit of the Assembly of Heads of State and Government of the Organization of African Unity (OAU) was held in Lagos, Nigeria, and agreed on the Lagos Plan of Action for the Economic Development of Africa, 1980-2000. This summit identified drought and desertification as important aspects of natural resource development strategy in Africa and prescribed some cures for these problems in the affected countries of the region. The Plan singled out drought and desertification as priority areas of environmental concern requiring immediate action in Africa. Throughtout the period, ECA has kept OAU informed of its activities in the various economic fields, and there have been joint action programmes from time to time to deal with pressing environmental issues including the management of drought and the control of desertification. The latest example of this co-operation came in the joint ECA/OAU document on Africa's Priority Programme for Economic Recovery, 1986-1990 (APPER).

8. The most important anti-desertification activities must take place at the national levels, and even further down, namely at the grass-roots level. Since UNCOD, many African countries have perfected national action plan for the combat against drought and desertification. In the present report, several countries have been examined in a little more detail to learn from their activities some lessons which can then be disseminated to the rest of Africa. In the Sahel countries of West Africa, Senegal was selected and the various anti-desertification programmes that have been mounted were examined; this examination included a comment on the effectiveness of some of these programmes. In the IGADD sub-region, one country was also selected, namely Kenya, and in the Maghreb or

Mediterranean Africa, Tunisia was selected. It was not possible to obtain detailed information on the SADCC countries so a general discussion was made to serve as a comment for their activities which are relevant to drought and desertification. Although there is now a multiplicity of anti-drought and anti-desertification projects throughout the region, they are not always well co-ordinated; neither are they sufficiently well-funded to make a big impact on the twin problem.

9. An assessment of the funding of the total anti-desertification programme, starting from the global level and then going down to the national level is far from encouraging because overall, the funds which had been hoped for to make a significant impact on the problem and in particular to fund trans-boundary projects, have not been forthcoming. Soon after UNCOD, UNEP estimated that anti-desertification programmes in developing countries required a minimum of $US 4.5 billion a year for a period of 20 years to make a significant impact on the problem. A revised figure of at least $US 2.4 billion a year over a similar period was arrived at in a more serious exercise carried out by a team of high-level experts hired by UNEP in 1980. In was found in that year that the maximum funds which could be realized each year for anti-desertification programmes was $600 million, which was far short of what was required. In 1984 it was found that UNSO, the most important single institution combining the joint efforts of UNEP and the United Nations Development Programme (UNDP) was only realizing some $40 million annually to be divided among the 19 countries which were obtaining aid at the time for national as well as regional anti-desertification programmes to visualize the significance of the shortfall list some of the African trans-boundary projects which had first been proposed at UNCOD and the amount of funds required to put them into operation:

(a) The development and management of rangelands and livestock in the Sudano-Sahelian region: $130 million spread over five to seven years;

(b) The northern trans-Saharan greenbelt (five countries): $50-$70 million a year for 10 years;

(c) The Sahelian (southern Saharan) greenbelt: $1.5 billion;

(d) North-eastern African regional aquifer: $30-$35 million a year for five years.

It is important to emphasize that comprehensive anti-desertification programmes require national action as well as the trans-boundary programmes such as those listed above. Nevertheless, it soon became clear from a record of the Consultative Group on Desertification Control (DESCON) meeting serviced by UNEP's new Desertification Branch that there was very little likelihood of raising even a small but significant proportion of the funds required for desertification control. The recent United Nations response to APPER in the UN-PAAERD indicated that additional funding might be found to be used for anti-desertification projects. However, if past DESCON meetings are anything to go by, donors will still show a preference for bilateral basis projects. If this latter objective can be achieved on a bilateral basis it certainly deserves support. However,

it seems clear that drought and desertification will continue to hamper the revival of most African economies in the foreseeable future, unless something dramatic happens in the next two years.

10. In spite of the gloomy financial picture, much has been achieved throughout the African region on anti-desertification since UNCOD in 1977. Among the major achievements are:

(a) Increased public environmental awareness;

(b) Relevant research including research into the application of existing knowledge to managing drought and controlling desertification;

(c) An important start on education and training;

(d) Production and dissemination of information.

These are important beginnings even though they are still dwarfed by the enormity of the problem at hand. Through the good offices of ECA, co-ordination is being pursued at many levels to enable the member States to share experiences. It is therefore important to emphasize the role of ECA in the continuing effort to manage drought and to control desertification.

11. A weak link in anti-desertification in the African region is found in the legislative process. A start had been made on relevant legislation at the national level, but a lot more will be required at the regional and international levels to increase Africa's participation in policy at these levels. Conventions; statutes and protocols have been used in creating intergovernmental institutions for combating drought and desertification. These have included the establishment of CILSS, IGADD and SADCC and several integrated river basin development projects but a lot more will need to be done, with ECA playing an important co-ordinating role.

12. The recent Conference of African Ministers of Environment (AMCEN-1985) in Cairo, Egypt, pointed the way to areas of co-operation at the African level, and it was important that drought and desertification were given the correct attention as areas deserving even greater co-operation. They particularly agreed on several priority regional activities which included projects on environment and eco-development, strengthening the north Saharan greenbelt, combating desertification in the Sahelian greenbelt, strengthening co-operation in the area of the north-eastern aquifer, the Lake Chad Basin Commission, the River Niger Basin Authority combating desert spread in southern Africa, and other water resources improvement schemes.

III. A REVIEW OF ANTI-DESERTIFICATION ACTIVITIES IN THE ECA SUBREGIONS

13. In order to obtain a closer look at the various activities to manage drought and to control desertification it has been decided to go down to the subregional level, and ultimately to the national level in a sample of member States. For

the purpose of this section of this report, Africa has divided into the following subregions:

A. The Maghreb countries

14. The Maghreb subregion comprises Algeria, the Libyan Arab Jamahiriya, Morocco and Tunisia. Dry lands make up some 4.5 million km2 or 95 per cent of the total area. The main settled areas are close to the Mediterranean coast which receives winter rainfall, and the land varies from sub-humid to arid as one travels from the coast to the Saharan fringes in the interior. The subregion has some 80 million ha of rangelands, 80 per cent of which is desertified; 20 million ha of croplands (20 per cent desertified); and 1.2 million ha of irrigated lands, 30 per cent of which is already desertified. The threat of desertification is ever-present, whether one is thinking of rangelands, rainfed croplands or irrigated lands, or forested woodlands. Similarly, the groundwater supplies are constantly under threat due to the possibility of over-pumping.

15. Desertification in the subregion is attributed to overall population growth, the settlement of former pastoral nomads in government settlement schemes, and the spread of agriculture (chiefly aboriculture) to marginal lands. The rangelands are overstocked and overgrazed livestock pressure has led to wind and water erosion; the woodlands degraded by cutting for fuelwood, clearing or the ravages of bush fires. The spread of agriculture to fragile eco-systems is also faced with serious desertification. Sand drifting is common on croplands, and waterlogging, silting, and salinization plague irrigation projects. It is against this background that a slightly more detailed account will now be given about Tunisia as a sample from the subregion to indicate how this member State is responding to drought and desertification and how it is attempting to respond to the Plan of Action to Combat Desertification at the national level.

Tunisia

16. Tunisia is one of the countries in the African region which has taken desertification very seriously and has already prepared a national strategy to combat desertification along the lines recommended at UNCOD and in the Plan of Action. Causes of desertification are as those enumerated for Mediterranean Africa or the Maghreb and include the expansion of agriculture into the semi-arid lands, overgrazing due to population pressure, cutting down of woodlands for fuelwood, and soil salinization in irrigated areas.

17. The national strategy for combating desertification and priority programme covering the period 1987-1991 is located in the Ministry of Agriculture which is also responsible for the co-ordination of all desertification strategies in the country. The various anti-desertification projects are funded from national sources as well as from international donors such as the Arab and Gulf States Fund (AGFUND), EEC, UNEP and UNDP, FAO and UNESCO. The UNESCO/UNEP Integrated Project on Arid Lands (MAB/UNEP) was located in Tunisia; the other part of the project being located in Kenya. A careful look at Tunisia's other anti-desertification projects shows that an effort has been made to cover various aspects of the problem, including:

(a) An inventory of natural resources, including soil mapping for sensitivity to erosion, and the mapping of pastoral resources in the affected areas;

(b) Protection and development, including sand dune fixation and stabilization in numerous affected areas, integrated river basin development, water use, and the rehabilitation of denuded rangelands;

(c) Support research projects, including agricultural rehabilitation schemes, the improvement of sylvo-pastoral zones;

(d) Training, information and the dissemination of knowledge, including creating public awareness about desertification; and

(e) Evaluation and follow-up.

18. A recently prepared list of national anti-desertification projects shows three projects on natural resource inventory, 10 projects on protection and development some of which are still awaiting financing, three projects on follow-up research, four projects on training, information and the dissemination of knowledge including public awareness, and one on follow-up, which involves the monitoring of the desertification process in the country. The UNEP list of anti-desertification projects in Tunisia reveals that the largest single project in the country (expected to cost $168,312,000) is intended to concentrate on soil erosion and desertification control. The project has two broad objectives which include soil conservation, the protection of resources against silting, flood protection and rangeland i,provement on the one hand; and afforestation and forest protection, soil and water conservation, pasture improvement, sand dune fixation, road infrastructure and watershed management. Funding for this project will mainly be met from national sources but with additional support from the World Food Programme supported by UNDP and SIDA. This project will be implemented by the Soil Conservation Division of the Ministry of Agriculture.

19. In spite of the concerted national effort which has been indicated, desertification is still gaining ground in Tunisia whether one thinks of rangelands, rainfed croplands, irrigated lands, and forested or wooded areas. To be able to reverse the process, even more massive funding will be required. But the country has resolved to make a serious start in dealing with this major environmental problem which has repercussions for food production and other sectors of the national economy.

B. The Sahel subregion (West Africa)

20. The problem of drought and desertification in the Sahel area of West Africa is probably the best documented throughout Africa. In this subregion, there are two different units, one of which is more affected than the other. The most severely affected countries include Burkina Faso, Cape Verde, Senegal, the Gambia, Mauritania, Mali, the Niger and Chad. The rest of the countries in the subregion are only partially desertified because large parts of their territories lie within the humid zone of West Africa. These include Guinea, Guinea-Bissau, Benin, Nigeria and Cameroon. The first nine countries were the

worst sufferers in the Sahelian drought of 1968-1873, and their plight drew world attention to the twin problem of drought and desertification. In this section of the report, most attention will be focused on the nine Sahelian countries, provided it is remembered that the others, like Nigeria and the other four, equally experience it on some moderate scale and only in parts of the territory.

Senegal

21. Senegal is yet another of the true Sahelian countries that have been plagued by a series of droughts starting from 1968, and a beneficiary of the series of aid projects under the Sudano-Sahelian institutions like CILSS, UNSO, AGRHYMET. With a population of nearly 7 million, the human pressure on the land is manifested in many forms. Desertification indicators affecting rangelands, rainfed and irrigated croplands, are all positive. The spread of sand dunes on to agricultural land is very much in evidence, as is acute fuelwood shortage resulting from widespread clearing of woodlands near urban centres, and forests in the more humid parts of the country. As a member of CILSS and UNSO, Senegal has benefitted at the national level in working out a national programme to combat drought effects and desertification.

22. As a primarily agricultural and pastoralist country, one of the major problems Senegal is facing is the widespread sedentarization of nomadic pastoralists in ecologically fragile rangelands because of the curtailment of former transhumance grounds which lie beyond national borders. This is particularly evident in areas where there are natural sources of water, as well as in areas where new boreholes have been established. Thus the provision of watering points adds to the desertification problems by encouraging overgrazing. In the case of agricultural populations, it is possible to observe increased settlement in lands formerly used by pastoralists, and the ensuing conflicts are responsible for the exacerbation of the effects of drought and desertification.

23. Even before UNCOD, Senegal became a member of several co-operative efforts in the subregion, on environmental conservation and natural resources development. These include the Inter-African Committee for Hydraulic Studies (CIEH), the Organization for the Development of the Senegal River (OMVS) jointly with Mali and Mauritania, and the Senegambia Secretariat jointly with the Gambia. These institutions add to CILSS, UNSO and AGRHYMET to produce a balance of efforts at environmental conservation, the tools necessary for dealing with droughts and controlling desertification.

24. The list of anti-desertification projects currently being carried out in Senegal includes 13 items financed by such various agencies as FAO, UNSO and WFP. There are other projects funded on a bilateral basis as well as those by non-governmental organizations but these were not readily available for the purposes of this report. The array of projects covers wide areas of concern in the endeavour to deal with drought and desertification. They include forestry training and communal afforestation projects, a conference on anti-desertification policy formulation, a UNSO-sponsored centre for eco-system monitoring, several projects devoted to fuelwood and alternative energy development, sand dune fixation, and a project on the conservation and development of natural vegetation.

This last project is also the most extended and it employs the method of food-for-work. It is funded by the World Food Programme, and it is intended to conserve and develop natural vegetation by involving large numbers of rural peoples. In the same breath, efforts are being made to encourage the development of village woodlots to relieve human pressure on the natural wood fuel resources. All these programmes should go some way in dealing with the drought and desertification problem. Unfortunately, the indications are that the projects are not massive enough, considering the degree of land degradation that has taken place from the combined onslaught of drought and desertification.

25. In addition to the purely national projects, Senegal is participating actively in the trans-Sahelian programmes such as the Sahel greenbelt and when it is fully funded, co-ordination of its national programmes with those of its neighbours.

C. The Eastern African Sahel lands

26. From the climatic point of view, the Sahel lands of Eastern Africa incorporating Djibouti, Ethiopia, Kenya, Somalia, the Sudan and Uganda should be put together with the Sudano-Sahelian lands. However, for the purpose of this report, they will just be referred to as the Eastern African subregion. During the recent Sahelian droughts, these countries experienced severe problems, though varying in degree from one country to the next, very similar to those in West Africa. In some instances, drought disrupted food production programmes so severely that some countries had to resort to emergency aid. The countries most severely hit were Ethiopia, Djibouti and Somalia. Added to the drought problem and partly caused by it was warfare in part of the subregion which produced large numbers of refugees, particularly in Somalia which had to be fed at the height of the droughts. Most of these countries had qualified for receiving financial assistance through UNSO, but in 1986, they formed the Intergovernmental Authority on Drought and Development to help co-ordinate their activities in drought management and desertification control.

Somalia

27. Somalia is easily more arid than Kenya, and has suffered much more severely from the effects of drought in the last 20 years. Desertification problems have in the near past been further complicated by having to cater for nearly one million refugees who were fleeing from the Ogaden war. It is estimated that from 60 to 70 per cent of the total population is pastoral and nomadic at the same time. The country has a few important irrigation schemes located along the main river valleys, namely the Juba and Wabe Shebelli. The main exports have been livestock and livestock products chiefly aimed at the Gulf States. The severity of the droughts and the accompanying famines in the last two decades have underlined the seriousness of desertification in the country.

28. In terms of desertification indicators, Somalia is fairly representative of countries in the Horn of Africa. Sand dune encroachment is moderate and

is confined to several coastal sites. The deterioration of rangelands is moderate, but much more in evidence during the series of prolonged droughts. Rangeland deterioration is also very much in evidence around the water holes and permanent water points which have been constructed in the livestock-rearing districts. The limited areas of cropland have suffered much deterioration and this has been expressed in the shortage of cereals arising from poor yields. With a growing population now standing at over 5.5 million, the threat to agricultural lands is increasing and human settlements encroach into more and more arid lands. The irrigated lands along the river valleys are at least providing a partial solution, but they in turn are affected by soil salinization which could lead to abandonment. One of the biggest problems facing Somalia is a fuelwood crisis arising from the wholesale clearance of the limited forest areas and woodland, partly to give room for agriculture and partly to supply the fuelwood requirements of both the urban and rural populations. The new irrigated areas were formerly under forest, and these were cleared to provide room for irrigation. The country faces a critical shortage of water and during the last severe drought an emergency water development and supply programme mounted by the United Nations Department of Technical Co-operation for Development (DTCD) had to be put into operation. The potential of aquifers for solving the water problem is yet to be exploited, and is likely to be a focus of anti-desertification assistance projects.

29. Somalia, like Kenya, is one of the countries of the IGADD group of countries which are likely to benefit from the co-ordination of national and subregional efforts to combat drought and desertification. The IGADD strategy for dealing with drought and desertification has been divided into (i) emergency measures and (ii) development strategies to combat drought. The emergency measures are only employed during severe droughts such as have been experienced in Somalia, and they include the mobilization and distribution of food, medicine and other relief assistance, the mobilization of logistic support, and the provision of water supply for human and livestock consumption. The development strategies to combat drought are very comprehensive and have been divided into:

(a) Short-term measures, such as the measures for the establishment of a subregional early warning system, the establishment and strengthening of national drought-coping organs, food buffer stocks, collection and dissemination of information, reafforestation programme, grassland development and setting up of an inventory of completed projects;

(b) Medium-term measures are concentrated around the study and development of water resources, rehabilitation of agricultural land, soil and water conservation, livestock development, development and management of rangelands, and afforestation and reafforestation. They also include research into drought-resistant crops, land-use planning and infrastructural development;

(c) Long-term measures, including rehabilitation of degraded agricultural lands, infrastructure, sedentarzation and settlement policies, and the development of self-sufficiency in food production.

30. At the national level, Somalia has already set up an institution and prepared a national programme for desertification control. The National Range Agency was established and given the responsibility for co-ordination and implementing effective programmes for drought and desertification control and rangeland rehabilitation. An Anti-desertification Unit has been created within the Agency and is responsible for several programmes which have been put into operation following funding from various sources, such as UNSO. Some of the UNSO-funded projects include the preparation of the national action plan for combating desertification, coastal sand dune fixation, the utilization of wind energy, afforestation and environmental monitoring. The UNEP list of desertification control and dryland development projects in Somalia include the following:

(a) FAO-funded assistance in development planning aimed at improving soil survey and mapping, land suitability evaluation, and manpower training: the area of remote sensing;

(b) FAO-funded assistance in range ecology and management;

(c) FAO-funded project in fodder production and conservation;

(d) FAO-funded project in strengthening agricultural research;

(e) FAO-funded project in strengthening of the Agricultural Research Centre. This is also the largest single project and it is aimed at assisting the country to attain the status of self-sufficiency in food production;

(f) DTCD: Emergency water relief during the 1984 drought;

(g) UNSO-funded project on the rehabilitation of rural reservoirs.

Many of these projects have come as a result of the close collaboration between the National Range Agency and the various United Nations agencies which are committed to the implementation of the Plan of Action to Combat Desertification. It is expected that the establishment of IGADD will assist with proper project identification and a more determined IGADD effort to combat drought and desertification.

D. The SADCC countries of Southern Africa

31. The SADCC member States include Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, the United Republic of Tanzania, Zambia and Zimbabwe. SADCC does not have the same objectives as CILSS or IGADD but in the last 10 years, a series of bad droughts have brought the attention of the member States of this organization to study carefully the recommendations of UNCOD and especially the Plan of Action, and to adopt most of the strategies suggested, because the environmental issues addressed are virtually the same. Of the nine member States of SADCC, the United Republic of Tanzania has some badly degraded rangelands in several districts in the centre and in the north; Zimbabwe has some semi-arid portions and has recently been plagued by a series

of bad droughts; Botswana is almost all semi-arid to arid; Lesotho faces severe problems of soil erosion and the degradation of rangelands; Angola has some semi-arid portions close to its borders with Namibia; and Mozambique has been plagued by a series of bad droughts which have been exacerbated by war.

32. The primary objective of the SADCC organization is to be self-sufficient in food production and to lessen economic dependence on South Africa. As already indicated, environmental considerations will play a decisive part in this equation. The SADCC member States are very much aware of the fact that efforts to achieve regional food security will depend to a large extent on the wise and long-term conservation of their natural resource base. To this extent frequent droughts, massive soil erosion and general environmental degradation which are indicators of desertification are a clear enemy of their plans. They have therefore opted for sound environmental and natural resource management. The management strategies to be adopted will include conservation, utilization and environmental monitoring.

33. Some of the environmental and natural resource conservation strategies which are being used by SADCC member States include reafforestation, the establishment of village woodlots, conservation of soil areas previously eroded, and the protection of rangelands from the devastating effects of overgrazing. The series of listed environmental priority concerns and their requirements for conservation is very close to the anti-desertification issues expressed at UNCOD, and include the following:

(a) Accelerated soil erosion and degradation;

(b) Overgrazing;

(c) Desertification;

(d) Climatic variation and periodic drought;

(e) Deforestation and inadequate afforestation and reafforestation;

(e) Inadequate trained personnel;

(f) Lack of information and awareness, and lack of environmental education programmes.

34. Among the recommended strategies include improved land management practices, de-stocking, prevention of soil degradation and soil improvement, increased afforestation, maintenance of the habitats of the utilized species, formulation and implementation of national conservation strategies, implementation of practical measures to check the advance of the Kalahari Desert, and control of rapid increase of human population. To this extent, they have prepared sectoral strategies to be implemented in each member State of SADCC. A series of projects have been prepared and some are already funded. At least one of the countries of the subregion has requested assistance from UNSO and in 1986 a UNSO planning and programming mission visited the country.

It is expected that the United Republic of Tanzania will henceforth be one of the 21 countries receiving aid from UNSO for its anti-desertification activities.

35. Food security projects, some of which have already been funded, include the regional early warning system for food security, regional information system, regional food reserve, regional post-production food loss reduction and food processing, regional seed production and supply, improved irrigation in the SADCC subregion and strengthening and co-ordination of migrant pest control. It is therefore fair to conclude that the SADCC subregion stands to gain a lot by working closely with those countries which are interested in the implementation of the Plan of Action to Combat Desertification.

36. It is on record that the Governing Council of UNEP was in 1984 requested to explore the possibility of assisting the SADCC countries through the establishment within available resources of joint ventures along the lines of UNSO for assistance in combating desertification. Therefore, in so far as the SADCC programmes have been strengthened they should now be considered as part of the team participating in the implementation of the Plan of Action. Although the SADCC countries kept on pressing to be included in the group of countries benefitting from UNSO, a strong feeling has emerged that UNSO should not be required to over-reach itself by taking in another nine member States. If this were to happen, UNSO might cease to function as an effective organization for the control of drought and desertification in Sahelian Africa. The end result has been efforts to direct some aid to the SADCC countries without formally admitting all of them into UNSO.

IV. RECOMMENDATIONS

37. There are numerous areas of recommendations for action at the national, subregional, regional and international levels. The role of ECA is pivotal in all these. For example, it is recommended that ECA should play active roles in supporting member States in the formulation of their national plans to manage drought and combat desertification, supporting member States with the preparation of anti-drought and anti-desertification projects, to encourage and co-ordinate national, subregional and regional early warning systems, to assist member States in effectively using the newly established African Centre of Meteorological Applications for Development (ACMAD), to stimulate further co-operation in intergovernmental institutions that are relevant to drought management, monitoring of resources, and desertification control.

38. Recommendations to national governments include the establishment of effective national early warning systems, establishment of ecological monitoring and assessment institutions, attention to the land tenure and land-use issue, concentration on improved agricultural and food production policies, attention to developments at the grass-roots levels, and the need for more enlightened population, settlement, and resettlement policies, attention to appropriate and adequate training at all levels, and the establishment of elaborate plans for the rehabilitation of degraded eco-systems.

39. Recommendations for action at the international level include funding and equipping national and regional early warning systems, support for and establishment of regional institutions, support with food relief and food relief planning; and the provision of financial assistance to countries afflicted by drought and desertification.

40. The recommendations made in this report are based on clear understandings that:

(a) More droughts will occur, if not immediately, but certainly within the immediate economic planning periods in each of the affected member States of ECA;

(b) Even if, climatically speaking, much of Africa were to experience a wet phase of from five to ten years, or even longer, droughts will return, and drought and desertification must continue to be given priority on the national economic planning agendas;

(c) In the event of a break, ECA member States should take the opportunity to put medium- and long-term measures into operation;

(d) Anti-drought and anti-desertification strategies and programmes are not amenable to crash programmes, and even within APPER and the UN-PAAERD in view any recommendations will aim more at the medium- and long-term prospects of achievement, rather than the short-term results;

(e) The overall aim of meaningful recommendations should be to strengthen national preparedness, subregional co-operation and regional co-ordination of programmes and strategies;

(f) Rather than look for entirely new ideas, action programmes at all levels should continue to be guided by the UNCOD Plan of Action to Combat Desertification, and that in addition, one should now look for and utilize relevant experiences of member States with combating the effects of drought and desertification over the last 10 or more years;

(g) Efforts should concentrate on finding out what obstacles have been encountered in the application of scientific and technical knowledge first at the grass-roots level, followed by the national, subregional, regional and international levels.

A. Recommendations for action at the national level

41. In the final analysis, anti-drought and anti-desertification programmes must be located and must be seen to be working at the national level. The recommendations for action at the national level assume that a national body will still be needed to be charged with co-ordinating the preparation of national plan of action to manage the effects of drought and to combat desertification, and to be responsible for its continuous revision in the light of new knowledge. Against this background, the following national action programmes are recommended:

(a) The establishment and effective utilization of a national drought early warning system, and where they already exist, to strengthen or remodel them to turn them into instruments of policy and decision making. Alongside each national early warning system there should also be established a national early warning contingency planning committee, with powers to recommend on the basis of meteorological, climatological or other information;

(b) Where this does not exist at the national level, there should be established a national crop and rangeland ecological monitoring agency or department with capacities for crop forecasts, rangeland monitoring, and desertification mapping, and that this outfit should work in close collaboration with the national early warning system. The agency or department should be equipped with aircraft and satellite-based remote sensing capacity to provide national intelligence on food production, rangeland condition and desertification processes;

(c) Studies, where they do not exist, be carried out to determine correct land-use practices in all ecological zones, particularly those liable to frequent droughts and desertification, and that national land use maps be produced to guide management decisions. It was also recommended that each member State endeavour to establish easily defined land tenure systems and to use them as a basis for land-use regulations in the interest of managing droughts and controlling desertification;

(d) In addition to the necessary emphasis on the application of science and technology, research be continued at the national and local levels, on the best methodologies of sand-dune fixation, proven drought-resistant species of trees and grasses as well as other management strategies;

(e) The government should do everything at the national level to arrive at viable and forward-looking food production and agricultural policies which will at the same time help combat drought and desertification. Agricultural development policies should aim at expanding the cultivated area on sound ecological principles of sustainability; they should employ new technologies such as improved seeds, fertilizers and pesticides and they should make good use of human resources and capital. Also relevant to food and agricultural policies should be the introduction of national crop insurance schemes supported by government or commercial banks, reduction of post-harvest losses, as well as the building of strategic food stocks to guard against famines caused by drought;

(f) When projects to combat drought and desertification are taken to the grass-roots levels; there should be an all-out effort to involve the local people, including the women and children who play an important part in agriculture and food production;

(g) It is desirable that at the local level every effort be made to adopt enlightened population policies. At the same time, governments should adopt equally enlightened settlement and resettlement policies for population inhibiting degraded lands which can only be reclaimed through evacuation;

(h) Efforts should be made to pay adequate attention to the needs of the human populations living in areas prone to drought and desertification; such efforts should include training at all levels with a view to providing them with specialized training and improved health and nutrition to prepare them for combating drought and desertification. Manpower training at the national level should be broad but relevant and should include the following areas:

(i) training of extension workers;

(ii) training of technologists and technicians for work in various aspects of drought and desertification;

(iii) university training in natural resources and other fields relevant to desertification control.

There should also be training for farmers and pastoralists through short courses and field days on methods of combating drought and desertification. At the same time, the trainers should be encouraged to learn from the farmers and pastoralists about traditional drought-coping techniques;

(i) Concerted efforts should be made to strengthen the institutional and management capacity of desertification control programme at the national level through:

(i) institutions for co-ordinated agrarian reforming accompanied by the decentralization of anti-desertification programmes, so that decision making is at the problem level rather than in a centralized bureaucracy;

(ii) reform of policies and institutions in the rural areas to make them more sensitive to the needs of the local population;

(iii) insistence on popular participation for all levels of society and especially the grass-roots levels;

(iv) involving women and children in all anti-desertification activities;

(j) More efforts should be made at the national levels to produce and disseminate information aimed at creating an even greater awareness of the requirements for drought management and desertification control;

(k) The rehabilitation of lands ravaged by drought or degraded to the point of desertification is a serious national responsibility. Many countries in the drought-prone lands have already undergone considerable damage to their eco-systems and find themselves unable to reverse the trends without massive programmes or rehabilitation and management. For such affected countries in Africa, schemes be worked out, at the national level, for slowing down the process of desertification and appropriately responding to drought in suitable localities through some of the following activities:

(i) policies for soil conservation and the restoration of degraded rangelands at the national level;

(ii) afforestation and reafforestation programmes;

(iii) stabilization of sand dunes;

(l) In addition to the short- and medium-term measures, efforts should be made at the national level to carry out long-term rehabilitation projects which may require up to 20 years to be fully realized; as such, they must be incorporated in national development plans and implemented in an incremental way over the years. The programmes should include better efforts to understand the role of climate in drought and desertification, and the role of human activities in contributing to or creating the deserts. At the national level, some of the problems identified will be tackled in the following ways:

(i) agricultural and range management research sensitive to the needs to control environmental degradation and desertification control, and aimed at achieving national self-reliance in food production;

(ii) long-term manpower training in methods of combating drought and desertification;

(iii) strengthening national institutions and their management capacities;

(iv) long-term efforts to restore the denuded lands and reclaim desertified areas;

(v) long-term ecological monitoring to better understand the cyclic behaviour of droughts.

2. Recommendations for action at the subregional levels

42. The subregional measures are aimed at collective self-reliance, in such areas as crop forecasting, subregional food security programmes, trans-boundary food transfers, and trans-boundary anti-desertification project. In these endeavours use should fully be made of existing subregional institutions like CILSS, IGADD and SADCC. It is recommended that a network of existing sub-regional institutions be developed for the exchange of information on strategies for combating drought and desertification, and at the subregional level areas which lend themselves to co-operation include the following:

(a) Co-operation among national early warning units to utilize to the full any subregional patterns of drought which may emerge. These should include pooling of efforts and exchanging information among climatological trends;

(b) The building of multinational or subregional food reserves as is already being done by SADCC;

(c) Subregional drought-coping strategies like the setting up of emergency food fund to inculcate subregional self-reliance;

(d) The identification of projects of subregional interest to the member States and to assist in securing resources for project preparation and implementation;

(e) Assistance to member States in a subregion in setting up guidelines and action programmes for drought and desertification as well as following up the implementation of drought-related activities of subregional interest.

3. Recommendations for action at the regional level

43. Action at the regional level should be initiated by ECA and where possible politically supported by OAU. At this level there is already an array of activities and institutions which are in operation, or which have recently been established, and these should be used to their fullest extent to ensure co-ordinated and meaningful action programmes to manage droughts and to combat desertification. The Lagos Plan of Action had underlined the necessity for African countries to use their natural resources to achieve sustainable economic development. Five years later it was admitted that among the many factors which had hindered the realization of the African aspirations contained in that Plan was the recent experience of severe and persistent drought and the accelerations of the desertification process. Therefore among the recommendations for action at the regional level should be concerted efforts to deal a severe blow to drought by learning to manage it and to desertification by the determination and resolve to make a dent on it. This must be achieved by using the existing regional and subregional institutions like CILSS, AGRHYMET, the Institut du Sahel, the Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS), the MULPOCs, PTA, ACMAD, IGADD and SADCC institutions. The array of institutions is impressive and of the most important contribution which the UN-PAAERD should make to the region should be to strengthen these institutions and to make them truly serve Africa. It is strongly recommended at this general level that in the event of there being substantial new funds for African economic recovery from the UN-PAAERD, an important proposition of these funds should be used to strengthen these institutions and to make them truly functional in dealing with the management of drought and the control of desertification. After these general recommendations, it is possible to go to the more specific recommendations.

44. National food policies and food and agricultural strategies are crucial for the management of drought and the control of desertification. Actions at the national and subregional levels need support and back-stopping at the regional level. Correct policies which promote self-sufficiency and self-reliance in food production are one of the strongest weapons in drought management and desertification control. It is therefore recommended that ECA should help co-ordinate the required studies for the establishment of national and subregional food self-sufficiency programmes, as well as the building of buffer stocks to minimize the effects of drought and desertification.

4. Actions at the international level

45. All actions at the international level should aim at supporting those already being taken at the national, subregional and regional levels. They should be geared towards the strengthening and co-ordination among donor countries and institutions including intergovernmental and non-governmental groups. Secondly, these should aim at providing technical and financial support to African countries either individually or through subregional and regional emergency or traditional support mechanisms. It is recommended that international assistance should concern itself with some of the following areas of activity:

(a) The establishment and strengthening of early warning systems through the provision of equipment and the training of skilled personnel;

(b) The establishment of regional institutions or the support of old ones with a mission to manage drought and combat desertification;

(c) The establishment and/or strengthening of mechanisms set up at national or subregional levels for food-relief planning, management and co-ordination;

(d) The replenishment of emergency reserves of food grains, medical suppliers and essential inputs for countries suffering from drought and famine.

46. Africa can only move at the pace hoped for in APPER and the UN-PAAERD if resources of sufficient magnitude are made available by the international donor community. It is recommended that the international, multilateral, bilateral and other donors give financial support to national, subregional and regional organizations to enable them to achieve a measure of self-sufficiency in coping with emergencies and in meaningfully addressing the timely issues of drought and desertification.

47. It is further recommended that the provision of financial assistance to the African countries affected by drought and desertification by the international donor community should be properly targeted to achieve results and should be substantial enough to begin to address the problems for which they are intended.